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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/913,883	AUPAIX ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>112003</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                     |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other:  |

### **DETAILED ACTION**

Claims 1-8 and 10-23 are pending.

#### ***Allowable Subject Matter***

1. The indicated allowability of claims is withdrawn in view of the newly discovered reference(s) to at least Cowie, US 5,599,529. Rejections based on the newly cited reference(s) follow. An interview was conducted on November 24, 2003 with Norman H. Stepno wherein the incorporation of claims 2 and 12 into claims 1 and 11, respectively was proposed by the examiner. Upon further review of the application and the examiner becoming aware of the newly cited prior art, said proposal has been withdrawn. An action on the merits follows. The examiner regrets any inconvenience.

#### ***Specification***

2. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.
3. The disclosure is objected to because of the following informalities: at page 6, lines 29, applicants should clarify the surface area set forth therein.

The structure set forth at page 6 shows a P-C bond rather than the P-O bond between the phosphorous and polyoxy-ethylene radical.

Appropriate correction is required.

#### ***Claim Objections***

4. Claim 23 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

Art Unit: 1712

dependent form, or rewrite the claim(s) in independent form. It is unclear how claim 23 can further limit the compositions of claim 1. Initially, "Formulates for cosmetics, varnishes, paints or plastics" has been given no patentable weight since said phrase is deemed to be an intended use phrase and breaths no life or meaning into the claim. Furthermore, "an effective amount" has not been defined and therefore has been given no patentable meaning.

5. Claims 18-21 are objected to because of the following informalities: in claims 18-21, line 1; the term "using" is superfluous. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-8 and 10-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 11 set forth the open language "at least one amphiphilic compound having a formula comprising" followed by the formulae structures. The use of open language, "comprising", in defining the formulae is indefinite. It is suggested applicants replace "formula comprising" with "formulae".

The metes and bounds of the claims are indefinite since it is unclear what is the scope of "n" defining the number of ethylene oxide units. It is unclear whether the claims are intended to include zero as a species. The original claims were directed to "polyoxyethylenated alkyl ether phosphates", which would require the presence of

ethylene oxide units. Applicants employ the same language at page 2, line 20, when defining the organic sols.

The formulae set forth in claims 1 and 11 employ a Roman numeral "II" for the P=O bond.

The alternative grouping in claims 2 and 12 is indefinite because of the multiple use of "or". It is unclear if "oxide, hydroxide or oxyhydroxide" is intended to modify "silicon".

Claims 14 and 15 contain idiomatic English. It is suggested applicants delete the first occurrence of "the" in line 2 of claim 14; insert "forming" after "comprising" in line 2 of claim 15, and after mixture in line 2 of claim 15 delete "forming".

In claim 17, line 3; "lest" is misspelled.

In claim 17, the ranges of "m", "n" and "p" are indefinite because said ranges are modified by the open language "comprised". It is unclear what other values said range may include. It is suggested applicants delete the term "comprised".

In claim 20, last line; "critic acid" is misspelled. Please see original claim 20.

Claim 23 is indefinite because it is unclear for what the effective amount is effective.

### ***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 4-5, 7-8, 10, 14-15 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Cowie, US 5,599,529. Cowie (examples 2 and 7; and claims 1 and 21) disclose organic sols for use in cosmetic products employing ethoxylated phosphate esters reading on the claimed structure. Cowie (example 7) clearly discloses at least some of the titanium dioxide particles were coated with hydrous silica and hydrous alumina. The surface area of the particle would have been expected to inherently have a surface area of at least 70 m<sup>2</sup>/g based on the small particle size of the particles. Cowie makes no distinction regarding the order of addition of the particles, dispersing agents and organic dispersing phase.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 4 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowie, US 5,599,529. Cowie discloses compositions and methods as set forth in the above anticipation rejection.

To the extent claim 4 differs from Cowie in the surface area, variation in the surface area in the particulate materials would have been obvious at the time of the invention for the advantage of improving surface reactivity.

To the extent claims 14 or 15 differ from Cowie in the order of addition of the components in making the compositions, the order of addition would have been obvious to one of ordinary skilled in the art at the time of applicants' invention as an obvious modification based on the particular form of the starting materials, eg., solid, liquid. Selection of any order of mixing ingredients is *prima facie* obvious. Please see MPEP 2144.04(IV)(C).

13. Claims 11, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cowie, US 5,599,529, as applied to claims 1-2, 4-5, 7-8, 10, 14-15 and 23 above, and further in view of Oshima et al, US 5,902,569. Cowie discloses compositions and methods as set forth in the above anticipation and obviousness rejections.

Cowie differs from claims 11-12 and 16 in the formation of a dried product (claims 11-12) or the solvent substitution (claim 16).

Oshima et al discloses *uv* shielding agents comprising coated (column 19, line 46, to column 20, line 11) composite fine particles that (column 15, lines 10 et seq;

Art Unit: 1712

column 16, lines 59 et seq; particularly lines 66-67; column 17, lines 7-10 and 33 et seq) are dried in the presence of an anionic surfactant including mono- and dialkyl phosphates and may be subjected to solvent exchange/substitution taught as a conventional.

These references are combinable because they teach *uv* filtering agents and dispersion employing them. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to employ drying and/or solvent exchange/substitution taught in the Oshima et al reference as conventional in the *uv* shielding composition art for the advantage of storage, shipping, pulverizing and/or sizing the particles and for the advantage of removing less volatile or more hydrophobic solvent such as employing alcohol to remove water followed by replacement of the ethanol by an oil dispersing medium.

14. Claims 1, 8, 10-11, 14-15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landry-Coltrain et al, US 5,821,027. Landry-Coltrain et al (column 1, example 1) disclose coating compositions comprising solution A wherein said solution is a solvent based solution containing abrasive particles denoted E-600 ( $\alpha$ -alumina) and a dispersing agent Rhodafac PE 510 (aromatic phosphate ester - 6 moles ethylene oxide).

Landry-Coltrain et al differs from the claims in the exemplified use of an alumina rather than the claimed titania as the abrasive.

Landry-Coltrain et al (column 6, lines 41 et seq) discloses the abrasive particles include titanium dioxide,  $\alpha$ -alumina, as well as other metal oxides. Landry-Coltrain et al

Art Unit: 1712

further teaches (column 7, lines 9 et seq ; particularly lines 17-18) the use of titanium dioxides as useful fillers. Landry-Coltrain et al also (column 6, lines 12-150 teaches phosphoric acid esters as useful dispersing agents.

It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ phosphoric acid esters as titanium dioxides dispersed in the organic compositions of Landry-Coltrain et al with the aid of the phosphoric acid esters as useful dispersing agents taught and shown in the Landry-Coltrain et al reference. Since the abrasives and fillers are dispersed in the coating organic solvent based compositions and are taught (column 6 lines 41 et seq; and column 7, lines 9 et seq) to be colloidal, said compositions would be considered a colloidal sol. Organic sol is defined as a particle dispersed in an organic medium.

The final coating would be a solid compound comprising a mixture of titanium oxide particles and at least one amphiphilic compound (Rhodafac PE 510). Said coating reads on claim 11. The order of addition has not been shown to be critical in either of claims 14 and 15. The order of addition would have been obvious to one of ordinary skilled in the art at the time of applicants' invention as an obvious modification based on the particular form of the starting materials, eg., solid, liquid.

***Allowable Subject Matter***

15. Claims 3, 6, 13 and 17-22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

16. Applicant's arguments with respect to claims 1-8 and 10-23 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on (703) 308-2340. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

  
Daniel S. Metzmaier  
Primary Examiner  
Art Unit 1712

DSM